

# Stream Classification Report

## KNIGHTS CREEK

(Main Stem)

WBIC: 2056800

Dunn County

Eau Galle and Weston Twp.

Category 4 Trout Fishing Regulation

Class II Trout Stream



### STREAM DESCRIPTION:

Length: 8 miles of Class II trout water.

Mean Stream Width: 4.6 m

Gradient: 1.7 m/ km

Base Flow Stream Discharge: 0.51 cms

Stream Character: Coldwater

Stream Order: 4

Habitat Rating: Fair

Coldwater IBI Rating: Excellent

Ecoregion: Driftless Area

**STOCKING RECORDS:** 1500 brook trout fingerlings were stocked annually until 2000. Stocking has been discontinued.

**KNIGHTS CREEK** is a moderate size Class II brook trout tributary to the Eau Galle River located in southwestern Dunn County. It flows in a south east direction where it reaches the Eau Galle River upstream of Lake Eau Galle. The watershed is primarily agricultural with wetland areas, wooded hills, and coulee type headwaters. Several water control structures are located on Knights Creek tributaries. Fish habitat ratings were Fair on the main stem of Knights Creek. Bank erosion was extensive and there was a lack of pool and riffle structure. Fine sediments were also extensive and there was little cover for adult trout. Station 7 is channelized in its entirety within a roadside ditch.

Knights Creek has many tributaries, most of which are classified trout water. Class I tributaries include West Branch Knights Creek (WBIC:2057700) and Creek 9-3C (WBIC:5012052). Class II tributaries include North Branch Knights Creek (WBIC:2057600), Creek 22-5D (WBIC:2057400), Creek 25-7 (WBIC:2057300), Creek 25-11 (WBIC:2057200), and Creek 35-13 (WBIC:2057100).

### FISHERY:

Brook trout were found at all sites surveyed on Knights Creek in 2015 (Table 1). Length ranged from 2.4 to 11.6 inches with an adult mean length of 7.9 inches (Fig. 1). Reproduction was low to moderate in Knights Creek as compared to other medium sized streams in the Driftless Area (29 to 55th percentile). Juveniles were found at stations 2, 3, and 7. There was little spawning substrate in the main stem, some of these young-of-year may have originated in the tributaries nearby. Previous surveys of these tributary streams have shown that spawning does occur there (West Branch Knights Creek Rotation 2011, Creek 35-13 Rotation 2011, Eau Galle River Watershed Report 1998, WDNR unpublished). The main stem held a moderate number of trout  $\geq 8$  inches at stations 2-5 (71-75th per-

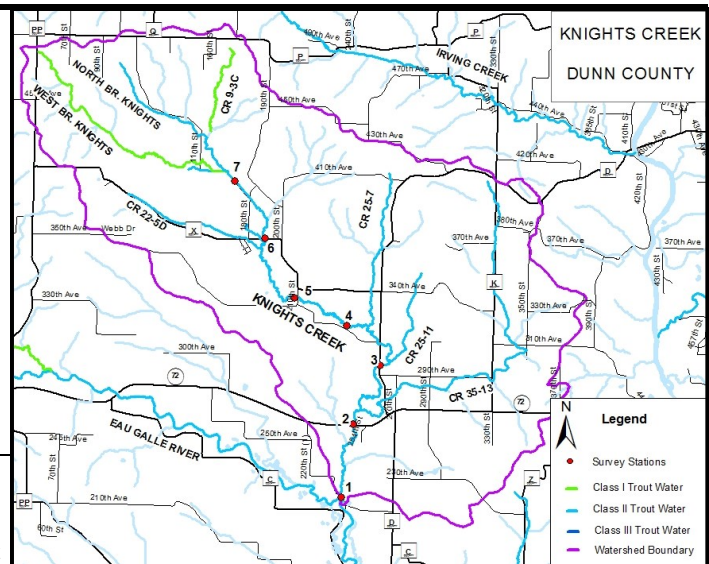
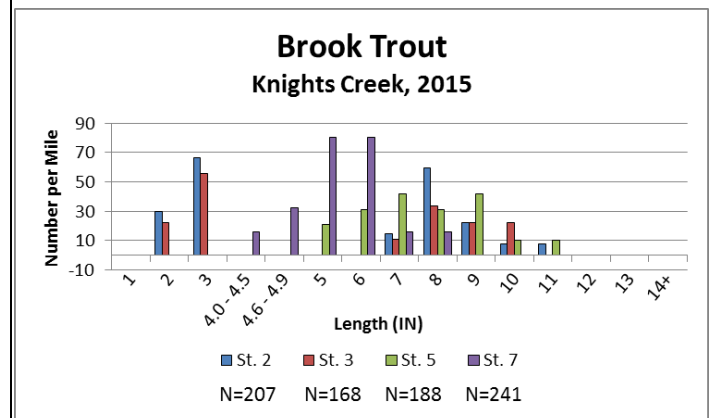


Figure 1 Length distribution



centile). Forty six to 50 percent were of legal size. Station 7 held low numbers of trout over 8 inches (34th percentile). Only seven percent of trout were of legal size here.

The Coldwater Index of Biotic Integrity (IBI) was Excellent. Few fish species other than brook trout were found during this survey (Table 2). This is typical of a healthy cold water fish community. This rating is comparable to the best environments with the least human disturbance. Tolerant species were found in low numbers and the top carnivores were native brook trout.

### FUTURE MANAGEMENT:

Knights Creek is currently classified as a Class II trout stream. Based on this survey this classification is correct. Natural re-

**Table 1** Abundance of brook trout (number per mile) at seven stations on Knights Creek.  
(-) indicates stations that were not surveyed.

Year	St. 1		St. 2		St. 3		St. 4		St. 5		St. 6		St. 7	
	Juv.	Adult	Juv.	Adult	Juv.	Adult	Juv.	Adult	Juv.	Adult	Juv.	Adult	Juv.	Adult
1960	-	-	0	0	0	0	0	0	0	3	0	6	-	-
1970	0	0	0	0	0	0	-	-	-	-	-	-	-	-
1971	-	-	-	-	-	-	-	-	0	17	0	53	0	0
1998	147	112	381	76	153	229	76	76	106	211	35	258	65	288
2002	-	-	37	193	-	-	-	-	-	-	72	165	-	-
2005	-	-	148	244	-	-	-	-	-	-	-	-	-	-
2006	-	-	267	44	-	-	-	-	-	-	-	-	-	-
2007	-	-	96	96	-	-	-	-	-	-	-	-	-	-
2008	-	-	170	74	-	-	-	-	-	-	-	-	-	-
2009	-	-	141	170	-	-	-	-	-	-	-	-	-	-
2010	-	-	311	15	-	-	-	-	-	-	-	-	-	-
2011	-	-	133	185	-	-	-	-	-	-	-	-	-	-
2012	-	-	156	126	-	-	-	-	-	-	-	-	-	-
2013	-	-	52	96	-	-	-	-	-	-	-	-	-	-
2014	-	-	30	119	-	-	-	-	-	-	-	-	-	-
2015	-	-	96	111	78	90	-	-	0	188	-	-	16	225

**Table 2** Relative abundance of fish species found in Knights Creek in 2015.  
(-) indicates species that were not targeted.

Species	St. 2	St. 3	St. 5	St. 7
Brook Trout	28	15	18	15
Lamprey ammocoete	-	5	-	0
Brook Stickleback	-	2	-	0
Creek Chub	-	1	-	0

production is present and there is carry over of adult trout into subsequent years. Knights Creek receives relatively low angler pressure and so is able to maintain a trout population without stocking. The thermal regime is quite good in Knights Creek, but poor habitat limits the number of trout that can be supported. Knights Creek falls under the Stream Bank Protection Program which allows the DNR to purchase conservation easements for fishing access, stream bank protection and trout stream restoration. Several conservation easements have been purchased by the DNR on Knights Creek and its tributaries, protecting approximately 3.5 miles of stream corridor. Of those streams approved for acquisition in Dunn County under the Stream Bank Protection Program, Knights Creek is the lowest priority for further acquisitions. Best Management Practices should be encouraged in the watershed to control erosion and instream sedimentation. Trend and rotational monitoring should continue using the wadable cold water stream protocol to assess trout populations and species composition.

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**For more information on Knights Creek, you can contact the following persons:**

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